

March 13, 2002, and a third Information Disclosure Statement on May 31, 2002.

Applicants submitted a Proprietary Information Disclosure Statement on July 8, 2002.

Finally, Applicants submitted an Information Disclosure Statement on October 2, 2002.

Applicants have not yet received the various initialed PTO form 1449 forms showing that Examiner Desai has considered each of the previously submitted references. However, during the interview of February 25, 2003, Examiner Desai indicated that she had considered each of the references in the various information disclosure statements. The Examiner indicated that the various initialed PTO form 1449 documents were transmitted to Applicants along with the Ex Parte Quayle action. However, because Applicants did not receive the Ex Parte Quayle Action, they do not have the initialed documents showing the Examiner has considered the references. Applicants respectfully request that the Examiner provide copies of the initialed PTO form 1449 documents along with her response to this communication.

CONCLUSION

In view of the above remarks and amendments, it is respectfully submitted that this application is in condition for allowance. Early notice to that effect is earnestly solicited. Applicants do still require documentation showing that each of the previously submitted references has been considered by the Examiner as described in the preceding paragraph. The Examiner is invited to telephone the undersigned at the number listed below if the Examiner believes such would be helpful in advancing the application to issue.

Respectfully submitted,

Date March 12, 2003

By 

FOLEY & LARDNER
Customer Number: 23524



23524

PATENT TRADEMARK OFFICE

Telephone: (608) 258-4281

Facsimile: (608) 258-4258

Bernard P. Friedrichsen
Attorney for Applicants
Registration No. 44,689

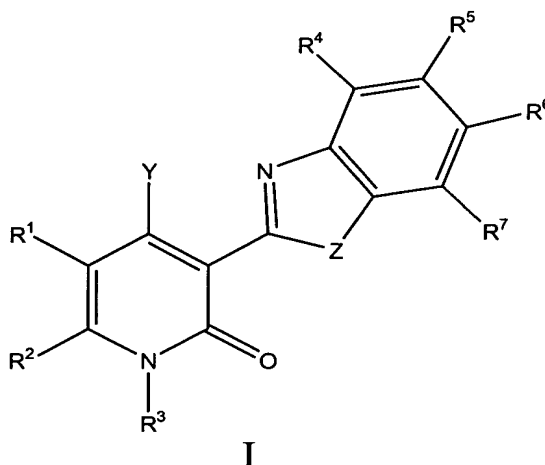
Marked Up Version Showing Amendments to Claims

Brackets = Deletions

Underlining = Additions

Changes are shown in Highlighting for the Examiner's Convenience

1. A compound having the structure I, a tautomer of the compound, a pharmaceutically acceptable salt of the compound, or a pharmaceutically acceptable salt of the tautomer



wherein,

Y is an[selected from the group consisting of -OH, -OR⁸ groups, -SH, -SR⁹ groups,] -NR¹⁰R¹¹ group[s, -CN, -C(=O)-R¹² groups, substituted and unsubstituted alkyl groups, substituted and unsubstituted alkenyl groups, substituted and unsubstituted alkynyl groups, substituted and unsubstituted aralkyl groups, substituted and unsubstituted heterocyclylalkyl groups, substituted and unsubstituted alkylaminoalkyl groups, substituted and unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted arylaminoalkyl groups, substituted and unsubstituted diarylaminoalkyl groups, substituted and unsubstituted (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and unsubstituted diheterocyclylaminoalkyl groups, substituted and unsubstituted (alkyl)(heterocyclyl)aminoalkyl groups, substituted and unsubstituted

(aryl)(heterocyclyl)aminoalkyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl groups, and substituted and unsubstituted heterocyclyloxyalkyl groups];

Z is an[selected from the group consisting of O, S, and] NR¹³ group[s];

R¹ and R² join to form a [5 to 7]6 membered substituted or unsubstituted ring comprising at least one O, N, or S atom;

R³ and R¹³ may be the same or different and are selected from the group consisting of H, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted aryloxy groups, -NH₂, substituted and unsubstituted alkylamino groups, substituted and unsubstituted arylamino groups, substituted and unsubstituted dialkylamino groups, substituted and unsubstituted diarylamino groups, substituted and unsubstituted (alkyl)(aryl)amino groups, substituted and unsubstituted heterocyclylamino groups, substituted and unsubstituted diheterocyclylamino groups, substituted and unsubstituted (alkyl)(heterocyclyl)amino groups, substituted and unsubstituted (aryl)(heterocyclyl)amino groups, substituted and unsubstituted heterocyclyloxy groups, substituted and unsubstituted alkyl groups, substituted and unsubstituted aryl groups, -C(=O)H, -C(=O)-alkyl groups, and -C(=O)-aryl groups;

R⁴, R⁵, R⁶, and R⁷ may be the same or different and are independently selected from the group consisting of H, Cl, Br, F, I, -NO₂, -CN, -OH, -OR¹⁴ groups, -NR¹⁵R¹⁶ groups, -C(=O)R¹⁷ groups, -SH, -SR¹⁸ groups, -S(=O)R¹⁹ groups, S(=O)₂R²⁰ groups, substituted and unsubstituted amidinyl groups, substituted and unsubstituted guanidinyl groups, substituted and unsubstituted primary, secondary, and tertiary alkyl groups, substituted

and unsubstituted aryl groups, substituted and unsubstituted alkenyl groups, substituted and unsubstituted alkynyl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted alkylaminoalkyl groups, substituted and unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted arylaminoalkyl groups, substituted and unsubstituted diarylaminoalkyl groups, substituted and unsubstituted (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted heterocyclylalkyl groups, substituted and unsubstituted aminoalkyl groups, substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and unsubstituted diheterocyclylaminoalkyl groups, substituted and unsubstituted (alkyl)(heterocyclyl)aminoalkyl groups, substituted and unsubstituted (aryl)(heterocyclyl)aminoalkyl groups, substituted and unsubstituted hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl groups, and substituted and unsubstituted heterocycloxyalkyl groups;

[R⁸ is selected from the group consisting of substituted and unsubstituted alkyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -C(=O)H, -C(=O)-alkyl groups, -C(=O)-aryl groups, -C(=O)O-alkyl groups, -C(=O)O-aryl groups, -C(=O)NH₂, -C(=O)NH(alkyl) groups, -C(=O)NH(aryl) groups, -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂ groups, -C(=O)N(alkyl)(aryl) groups, -NH₂, -NH(alkyl) groups, -NH(aryl) groups, -N(alkyl)₂ groups, -N(alkyl)(aryl) groups, -N(aryl)₂ groups, -C(=O)NH(heterocyclyl) groups, -C(=O)N(heterocyclyl)₂ groups, -C(=O)N(alkyl)(heterocyclyl) groups, and -C(=O)N(aryl)(heterocyclyl) groups;]

[R⁹ and R¹⁸ may be the same or different and are independently selected from the group consisting of substituted and unsubstituted alkyl groups, and substituted and unsubstituted aryl groups;]

R^{10} is selected from the group consisting of H, substituted and unsubstituted alkyl groups, substituted and unsubstituted aryl groups, and substituted and unsubstituted heterocyclyl groups;

R^{11} is selected from the group consisting of H, substituted and unsubstituted alkyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted heterocyclyl groups, -OH, alkoxy groups, aryloxy groups, -NH₂, substituted and unsubstituted heterocyclalkyl groups, substituted and unsubstituted aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl groups, substituted and unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted arylaminoalkyl groups, substituted and unsubstituted diarylaminoalkyl groups, substituted and unsubstituted (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted alkylamino groups, substituted and unsubstituted arylamino groups, substituted and unsubstituted dialkylamino groups, substituted and unsubstituted diarylamino groups, substituted and unsubstituted (alkyl)(aryl)amino groups, -C(=O)H, -C(=O)-alkyl groups, -C(=O)-aryl groups, -C(=O)O-alkyl groups, -C(=O)O-aryl groups, -C(=O)NH₂, -C(=O)NH(alkyl) groups, -C(=O)NH(aryl) groups, -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂ groups, -C(=O)N(alkyl)(aryl) groups, -C(=O)-heterocyclyl groups, -C(=O)-O-heterocyclyl groups, -C(=O)NH(heterocyclyl) groups, -C(=O)-N(heterocyclyl)₂ groups, -C(=O)-N(alkyl)(heterocyclyl) groups, -C(=O)-N(aryl)(heterocyclyl) groups, substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and unsubstituted diheterocyclylaminoalkyl groups, substituted and unsubstituted (alkyl)(heterocyclyl)aminoalkyl groups, substituted and unsubstituted (aryl)(heterocyclyl)aminoalkyl groups, substituted and unsubstituted hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl groups, and substituted and unsubstituted heterocycloxyalkyl groups;

[R¹² is selected from the group consisting of H, -OH, alkoxy groups, aryloxy groups, -NH₂, -NH(alkyl) groups, -NH(aryl) groups, -N(alkyl)₂ groups, -N(aryl)₂ groups, -N(alkyl)(aryl) groups, substituted and unsubstituted alkyl groups, substituted and unsubstituted aryl groups, -NH(heterocyclyl) groups, -N(heterocyclyl)₂ groups, -N(alkyl)(heterocyclyl) groups, and -N(aryl)(heterocyclyl) groups;]

R¹⁴ is selected from the group consisting of substituted and unsubstituted alkyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl groups, -C(=O)H, -C(=O)-alkyl groups, -C(=O)-aryl groups, -C(=O)-heterocyclyl groups, -C(=O)NH₂, -C(=O)NH(alkyl) groups, -C(=O)NH(aryl) groups, -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂ groups, -C(=O)N(alkyl)(aryl) groups, -C(=O)NH-heterocyclyl groups, -C(=O)N-(heterocyclyl)₂ groups, -C(=O)N(alkyl)(heterocyclyl) groups, -C(=O)N(aryl)(heterocyclyl) groups, substituted and unsubstituted aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl groups, substituted and unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted arylaminoalkyl groups, substituted and unsubstituted diarylaminoalkyl groups, substituted and unsubstituted (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and unsubstituted diheterocyclylaminoalkyl groups, substituted and unsubstituted (heterocyclyl)(alkyl)aminoalkyl groups, substituted and unsubstituted (heterocyclyl)(aryl)aminoalkyl groups, substituted and unsubstituted alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl groups, substituted and unsubstituted hydroxyalkyl groups, and substituted and unsubstituted heterocycloxyalkyl groups;

R^{15} is selected from the group consisting of H, substituted and unsubstituted alkyl groups, substituted and unsubstituted aryl groups, and substituted and unsubstituted heterocyclyl groups;

R^{16} is selected from the group consisting of H, substituted and unsubstituted alkyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted heterocyclyl groups, $-C(=O)H$, $-C(=O)$ -alkyl groups, $-C(=O)$ -aryl groups, $-C(=O)NH_2$, $-C(=O)NH$ (alkyl) groups, $-C(=O)NH$ (aryl) groups, $-C(=O)N$ (alkyl)₂ groups, $-C(=O)N$ (aryl)₂ groups, $-C(=O)N$ (alkyl)(aryl) groups, $-C(=O)O$ -alkyl groups, $-C(=O)O$ -aryl groups, substituted and unsubstituted aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl groups, substituted and unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted arylaminoalkyl groups, substituted and unsubstituted diarylaminoalkyl groups, substituted and unsubstituted (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted heterocyclylalkyl groups, $-C(=O)$ -heterocyclyl groups, $-C(=O)-O$ -heterocyclyl groups, $-C(=O)NH$ (heterocyclyl) groups, $-C(=O)-N$ (heterocyclyl)₂ groups, $-C(=O)-N$ (alkyl)(heterocyclyl) groups, $-C(=O)-N$ (aryl)(heterocyclyl) groups, substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and unsubstituted diheterocyclylaminoalkyl groups, substituted and unsubstituted (heterocyclyl)(alkyl)aminoalkyl groups, substituted and unsubstituted (heterocyclyl)(aryl)aminoalkyl groups, substituted and unsubstituted hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl groups, and substituted and unsubstituted heterocyclyloxyalkyl groups; **[and]**

R^{17} , R^{19} , and R^{20} may be the same or different and are independently selected from the group consisting of H, $-NH_2$, $-NH$ (alkyl) groups, $-NH$ (aryl) groups, $-N$ (alkyl)₂ groups, $-N$ (aryl)₂ groups, $-N$ (alkyl)(aryl) groups, $-NH$ (heterocyclyl) groups, $-N$ (heterocyclyl)(alkyl)

groups, -N(heterocyclyl)(aryl) groups, -N(heterocyclyl)₂ groups, substituted and unsubstituted alkyl groups, substituted and unsubstituted aryl groups, -OH, substituted and unsubstituted alkoxy groups, substituted and unsubstituted heterocyclyl groups, substituted and unsubstituted aryloxy groups, heterocyclyloxy groups, -NHOH, -N(alkyl)OH groups, -N(aryl)OH groups, -N(alkyl)O-alkyl groups, -N(aryl)O-alkyl groups, -N(alkyl)O-aryl groups, and -N(aryl)O-aryl groups; and

R^{18} is independently selected from the group consisting of substituted and unsubstituted alkyl groups, and substituted and unsubstituted aryl groups;

2. The compound according to claim 1, wherein one of R^{10} or R^{11} is H[Y is selected from the group consisting of -OH, -OR⁸ groups, and -NR¹⁰R¹¹ groups].

3. The compound according to claim 1, wherein R^{10} and R^{11} are both H[Y is a -NR¹⁰R¹¹ group].

4. The compound according to claim 1, wherein R^3 is H and R^{13} is H[Z is an NR¹³ group].

5. The compound according to claim 4, wherein R^4 and R^7 are hydrogen[and R^5 and R^6 are selected from the group consisting of hydrogen and alkyl groups having from 1 to 4 carbon atoms].

6. The compound according to claim [1]4, wherein R^5 or R^6 is an -OR¹⁴ group and R^{14} is an alkyl, aryl, heterocyclyl, or heterocyclylalkyl group.

7. The compound according to claim [1]4, wherein R^5 or R^6 is a -OCH₂(CH₂)_q(heterocyclyl) group and q is 0, 1, 2, 3, or 4.

8. The compound according to claim [1]4, wherein R^{17} is selected from the group consisting of substituted and unsubstituted alkyl groups, substituted and unsubstituted aryl groups, -NH₂, -NH(alkyl) groups, -N(alkyl)₂ groups, -NH(aryl) groups,

-N(aryl)₂ groups, -N(alkyl)(aryl) groups, -NH(heterocyclyl) groups, -N(heterocyclyl)(alkyl) groups, -N(heterocyclyl)(aryl) groups, -N(heterocyclyl)₂ groups, and N-containing heterocycles, wherein the N-containing heterocycles are bonded to the carbonyl carbon of the -C(=O)-R¹⁷ group through either a nitrogen atom or a carbon atom in the rings of the N-containing heterocycles.